Lab. Task - 2.

Date:

Pseudo code problems.

1) Write Pseudocode to find the smallest number among three given Variables Implement a decision-making structure to Compare the Variables.

Sol:

```
Start
Input N1
Input N2
Input N3
If N1 < N2 and
    N1 < N3
then print N1 is smallest
else if N2 < N1 and
    N2 < N3
then print N2 is smallest
else N3 is smallest
End.
```

2) Create Pseudocode to subtract two numbers without using the
'-' operator.

Sol:

Start
Input num1
Input num 2
Calculate two's Complement of num 2
Add num1 and two's Complement of num 2
Print the result
End

=> Develop pseudocode for a basic calculator that performs multiplication and division. The pseudocode should prompt the user for two numbers and an operator, then display the result of the operation.

<u>Sol's.</u>

Start
Input Number 1
Input Number 2
Enter your operation
If the operation == 'x'
then multiplication = Number 1 x Number 2
Else if operation == '÷'
then division = Number 1 ÷ Number 2
End

Algorithm

1) Write an algorithm to determine whether a number is a prime number - The algorithm should iterate through possible divisors and determines if the number has any divisors other than 1 and itself.

Soln =>
Step-1 => Start
Step-2 => Take a number except 1 and negative number
Step-3 => Check the divisibility of a given number 1 less than the given number
Step-4 => If number is divisible by 1 and itself
then the number is Prime number
Else the number is not Prime number
Step-5 => End

2) Create an algorithm that asks the user for a day number (1-365) and outputs the Corresponding day of the week, assuming that January 1st is a Monday.

Sol'n • start

- Ask the user to enter number N
- Set number to N mod 7
- If reminder is zero then the day is Sunday
- If reminder is one then the day is monday
- If reminder is two then the day is tuesday
- If reminder is three then the day is wednesday
- If reminder is four then the day is thursday
- If reminder is five then the day is friday
- If reminder is six then the day is Saturday
- If reminder is seven then the day is Sunday
- Display the day.
- End

3) Develop an algorithm for a program that takes two number as input and finds the greatest Common divisor (GCD) of two numbers using the Euclidean algorithm.

Sol:
- start
- Take two numbers N_1, N_2 as input
- Draw the table with 4 columns having Quotient, A, B and reminder as four parameters.
- Put the biggest number in parameter A and other in parameter B of input numbers.
- Do the division operation of A and B, write its quotient in Quotient parameter and reminder in reminder parameter.
- Write B value in A parameter and reminder value in parameter B.
- Loop operations performed until parameter B value become zero, then
- Print Parameter A Value is GCD.
- Stop